

CLAIM LISTING

This listing of claims will replace all prior versions, and listings of claims in the application:

IN THE CLAIMS

1. (currently amended) A memory array comprising:
  - a bitline; and
  - a plurality of memory cells, each of the plurality of memory cells having:
    - a configuration bit terminal;
    - a pair of cross-coupled inverters having first and second bit nodes, wherein one of the first and second bit nodes is connected to the configuration bit terminal;
    - an access transistor having a first current-carrying terminal connected to the bitline, a second current-carrying terminal connected to the first bit node, and an access-transistor control terminal; and
    - a memory transistor having a first current-carrying terminal connected to one of the first and second bit nodes, a second current-carrying terminal connected to a power supply node, and a memory-transistor control terminal;
  - wherein each of the plurality of memory cells further includes a programmable interconnection interposed between the first current-carrying terminal of the memory transistor and ~~at least one of~~ the first and second bit nodes; and
  - wherein the programmable interconnection connects the first current-carrying terminal of the memory transistor to the first bit node when programmed in a first state, and connects the first current-carrying terminal of the memory transistor to the second bit node when programmed in a second state.

2. (original) The memory array of claim 1, further comprising a second configuration bit terminal connected to the first bit node, wherein the first-mentioned configuration bit terminal connects to the second bit node.
3. (original) The memory array of claim 1, further comprising a configurable resource connected to the configuration bit terminal, the configuration terminal transmitting a configuration voltage to the configurable resource.
4. (original) The memory array of claim 1, the access-transistor control terminal receiving at least one of a read control signal and a write control signal.
5. (canceled)
6. (previously presented) The memory array of claim 1, wherein each of the plurality of the memory cells further includes a mask-programmable interconnect providing the programmable interconnection.
7. (previously presented) The memory array of claim 1, wherein in a first set of the plurality of memory cells the first current-carrying terminal of the memory transistor connects to the first bit node via the programmable interconnection, and wherein in a second set of the plurality of memory cells the first current-carrying terminal of the memory transistor connects to the second bit node via the programmable interconnection.
8. (currently amended) A memory array comprising:
  - a bitline; and
  - a plurality of memory cells, each of the plurality of memory cells having:
    - a configuration bit terminal;
    - a pair of cross-coupled inverters having first and second bit nodes, wherein one of the first and second bit nodes is connected to the configuration bit terminal;

an access transistor having a first current-carrying terminal connected to the bitline, a second current-carrying terminal connected to the first bit node, and an access-transistor control terminal; and

a memory transistor having a first current-carrying terminal connected to one of the first and second bit nodes, a second current-carrying terminal connected to a one of first and second power supply nodes, and a memory-transistor control terminal;

wherein each of the plurality of memory cells further includes a programmable interconnection interposed between the second current-carrying terminal of the memory transistor and ~~at least one of the first and second power supply nodes~~.

9. (original) The memory array of claim 8, wherein each of the plurality of the memory cells further includes a mask-programmable interconnect providing the programmable interconnection.
10. (original) The memory array of claim 8, wherein in a first set of the plurality of memory cells the second current-carrying terminal of the memory transistor connects to the first power supply node via the programmable interconnection, and wherein in a second set of the plurality of memory cells the second current-carrying terminal of the memory transistor connects to the second power supply node via the programmable interconnection.
11. (original) The memory array of claim 8, wherein the first power supply node is VDD and the second power supply node is ground.
12. (original) The memory array of claim 1, wherein the cross-coupled pair of inverters is part of a static random-access memory (SRAM) cell.

13. (original) The memory array of claim 1, wherein the memory transistor is part of a read-only memory (ROM) cell.
14. (original) The memory array of claim 1, wherein the memory array is part of a configuration memory of a programmable logic device.
15. (original) The memory array of claim 1, further comprising a memory control terminal connected to the memory transistor control terminals, the memory control terminal having first and second states, wherein the first state configures the memory cells as read-only memory (ROM) and the second state configures the memory cells as random-access memory (RAM).
16. (original) The memory array of claim 15, wherein the circuit is part of a configuration memory of a programmable logic device, and wherein the first state of the memory control terminal renders the programmable logic device an application specific circuit (ASIC).
17. (original) The memory array of claim 1, wherein the power supply node is ground.

18 – 21 (canceled)

22. (currently amended) A circuit comprising:
  - a plurality of memory cells, each memory cell supporting a random-access memory mode and a read-only memory mode; and
  - an array of configurable logic resources connected to the memory cells; wherein each memory cell includes a mode switch selecting one of the random-access memory mode or the read-only memory mode; and
  - wherein each memory cell further includes a configuration bit terminal,
  - each configuration bit terminal coupled to at least one configurable logic
  - resource in the array of configurable logic resources.

23. (canceled)
24. (original) The circuit of claim 22, wherein each memory cell includes a random-access memory cell and a read-only memory cell.
25. (original) The circuit of claim 24, wherein the read-only memory cells are mask programmable.
26. (previously presented) A programmable logic device comprising:
  - configurable logic resources having a plurality of configuration bit terminals; and
  - a plurality of memory cells, each memory cell including:
    - a configuration bit node connected to one of the plurality of configuration bit terminals of the configurable logic resources and providing a configuration-bit signal;
    - a random-access memory element;
    - a read-only memory element; and
    - at least one memory control terminal selecting one of the random-access memory element and the read-only memory element to control the configuration-bit signal.
27. (original) The programmable logic device of claim 26, wherein the read-only memory element is mask programmed.
28. (original) The programmable logic device of claim 26, wherein the random-access memory element is a static random-access memory element.